INFS3202/7202 Exam Revision

1. For the following HTML tags give the purpose of the tag and describe the main attributes:  
   form, a, img, link, table, p  
     
   form: Purpose: Defines an HTML form for user input. Main Attributes: action, method, enctype, name, target.  
   a: Purpose: Defines a hyperlink. Main Attributes: href, target, rel, type, download.  
   img: Purpose: Embeds an image in the document. Main Attributes: src, alt, width, height, title.  
   link: Purpose: Defines the relationship between the current document and an external resource eg CSS style sheet. Main Attributes: href, rel, type, media.  
   table: Purpose: Defines a table. Main Attributes: border, cellpadding, cellspacing, summary, width.  
   p: Purpose: Defines a paragraph.   
     
   form:  
   Purpose: Defines an HTML form for user input.  
   Attributes:  
    - action: Specifies the URL to send the form data to.  
    - method: Specifies the HTTP method to use when sending form data (e.g., GET, POST).  
    - enctype: Specifies how the form data should be encoded when submitting it to the server.  
    - name: Specifies the name of the form.  
      
   a:  
   Purpose: Defines a hyperlink.  
   Attributes:  
    - href: Specifies the URL of the page the link goes to.  
    - target: Specifies where to open the linked document.  
     
   img:  
   Purpose: Embeds an image in the document.  
   Attributes:  
    - src: Specifies the path to the image.  
    - alt: Provides alternative text for the image if it cannot be displayed.  
    - width: Specifies the width of the image.  
    - height: Specifies the height of the image.  
     
   link:  
   Purpose: Defines the relationship between the current document and an external resource.  
   Attributes:  
    - href: Specifies the URL of the linked resource.  
    - rel: Specifies the relationship between the current document and the linked resource.  
     
   Purpose: Defines a table.  
   Attributes:  
    - border: Specifies whether the table should have borders.  
    - cellpadding: Specifies the space between the cell wall and the cell content.  
    - cellspacing: Specifies the space between cells.  
    - summary: Provides a summary of the table's purpose and structure (deprecated).  
    - width: Specifies the width of the table.  
   Can have rows and columns.  
   <tr> and <td> colspan and rowspan allows cells to be merged.  
     
   p:  
   Purpose: Defines a paragraph. No important attributes but can use CSS.
2. For the following Acronyms give the full name and give a short description:  
   CSS, HTML, HTTP, SSH  
     
     
   CSS: Cascading Style Sheets - A style sheet language used for describing the presentation of a document written in HTML or XML.  
   HTML: HyperText Markup Language - The standard markup language for creating web pages and web applications.  
   HTTP: HyperText Transfer Protocol - The foundation of data communication for the World Wide Web.  
   SSH: Secure Shell or Secure Shell Host - A encrypted network protocol for operating network services securely over an unsecured network.
3. Describe the purpose of the following Linux commands:  
   ls, cd, mv, cp, nano, sudo, mkdir, chmod  
     
   ls: Lists directory contents.  
   cd: Changes the current directory.  
   mv: Moves or renames files or directories.  
   cp: Copies files or directories.  
   nano: A text editor for Unix-like computing systems or operating environments using a command line interface.  
   sudo: Allows a permitted user to execute a command as the superuser.  
   mkdir: Creates a new directory.  
   chmod: Changes file mode bits (permissions).
4. List common HTTP Status Codes and their causes?  
     
   200 OK: The request has succeeded.  
   404 Not Found: The server can not find the requested resource.  
   500 Internal Server Error: The server encountered an unexpected condition that prevented it from fulfilling the request.  
   403 Forbidden: The client does not have access rights to the content.
5. Describe the different clauses in an SQL query?  
     
   SELECT: Specifies the columns to be returned by the query.  
   FROM: Specifies the tables to query.  
   WHERE: Filters the results based on specified conditions.  
   GROUP BY: Groups rows sharing a property so aggregate functions can be applied to each group.  
   HAVING: Filters groups based on a condition.  
   ORDER BY: Specifies the order of the results. Has ASC and DESC to order.
6. Describe each component of the MVC framework?  
     
   Model: Represents the data and maps to a database table.  
   View: Represents the presentation layer (HTML).  
   Controller: Handles user input and interacts with the model and view.
7. How does combining client-side and server-side techniques improve website usability?  
     
   Client-Side: Reduces server full page loads, and improves the user experience with interactive elements.   
     
   Server-Side: Ensures data integrity (Saves back to database), security, and performs complex operations.   
     
   Combining both ensures a seamless, efficient, and secure user experience.
8. What does the Form method=POST do when a form is submitted?  
     
     
   Sends data to the server as part of the request body, not visible in the URL, and is used for actions that change the state of the server (e.g., updating a database).
9. Design an add/edit form for a Blogging platform. Include details on how you would use a shared HTML form for both the add and edit functionality.  
     
   Use the same form for adding and editing by pre-filling existing data for edits and leaving fields empty for new entries. Use URL to either include an id if it is an edit. Can use Get and Post to determine whether to show form (GET) or process form (POST) in the Controller. Will need separate routes setup for GET and POST that map to the same Controller.
10. For INFS7202 Students: You are working at a start-up building a Social Media platform built using the CodeIgniter PHP Web Framework. You have been asked to select a library that generates QR Codes. What criteria would you use to evaluate QR Code libraries?  
      
      
    Main Criteria could include:

Compatibility with CodeIgniter, Ease of use and integration, Documentation and support, Customization options (e.g., size, error correction level), Performance and efficiency, Licensing and cost.